

the Upland GAZETTE

North Carolina Small Game Notes

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Conservation Canon

Farm Bill Programs Promote Ecological Benefits Statewide

Written by Mark D. Jones and John R. Isenhour, NCWRC

(as first appeared in the September 2009 issue of *Wildlife in North Carolina*).

Sometimes described as the greatest conservation law that people have never heard of, the Farm Bill offers dozens of programs for landowners and farm managers who want to improve wildlife habitat on their property.

It's dawn on a beautiful spring morning, and John Bishop has just heard the distinctive "bob-WHITE" call of a male Northern bobwhite quail on his Anson County property. As Bishop stands looking over the field from which the quail is calling—a large field recently converted from cropland to a mix of native grass and forbs—he hears a second male bobwhite calling in a pine plantation treated with prescribed fire.

The fields and woodlands attracting the bobwhites represent some of the best early-successional habitat (areas of grasses, forbs, beneficial weeds and shrubs required or preferred by many wildlife species) in the Piedmont. Bishop's property is an island of hope in a sea of detrimental landscape practices that have brought populations of quail, rabbits and many songbirds to historically low levels throughout most of the Southeast over the last 50 years.

Bishop, an avid hunter and conservationist, saw the decline of the rural lifestyle and associated wildlife habitat in his native Piedmont and decided to do something about it. His goal, "to manage this farm in a way that maximizes quality water, land and wildlife; not only for my family but for all succeeding generations," spurred him to address this decline on his property.

The current management of Bishop's farm is an ongoing process carried out with financial assistance from U.S. Department of Agriculture (USDA) Farm Bill funds and with technical assistance and advice from the N.C. Wildlife Resources Commission (NCWRC)



RUSSELL GRAVES

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private lands biologists. These cooperative efforts have allowed Bishop to enjoy high-quality rabbit hunting and noticeable increases in quail and songbirds.

The transformation of Bishop's farm began with 280 acres of pre-commercial thinning in young pine plantations and mixed forest stands scattered across his property. Bishop soon recruited assistance from N.C. Wildlife Resources Commission biologists and USDA staff to incorporate multiple Farm Bill programs into the implementation of major habitat management projects. He enrolled 94 acres of cropland in field border programs, implemented a prescribed burning program to treat more than 200 acres, established 15 acres of native warm-season grasses, planted two acres of native shrubs, and controlled invasive exotic plant species on 20 acres. In addition to these habitat improvements, Bishop permanently protected the farm from future development using funds from the Farm Bill's Farm and Ranch Lands Protection Program (see "Easement Programs," page 8).

"The NCWRC has provided the highest level of technical advice," Bishop says of his experience so far, "and the financial assistance allows us to manage more acres."

Inside the Farm Bill

The term "Farm Bill" causes many people to envision vague legislation pertaining specifically to agricultural practices and having little impact on anyone not connected to farming. In reality, the Farm Bill is a broad, diverse piece of legislation impacting the daily lives of all Americans. It authorizes federal programs addressing a wide array of issues related to agriculture production, food distribution and hunger.

First passed in 1949, the bill focuses on farm programs, covering issues like farm payments, domestic and international agricultural trade, environmental conservation, food stamp assistance, research and education, agricultural lending and credit, agricultural promotion, and rural development. Any changes made to these programs, or to others that have been added over the years, last for approximately four to six years or until Congress specifies the next legislative rewrite.

The Farm Bill's positive effect on wildlife began in earnest in 1985 with the addition of a Conservation Title in response to the environmental impact of agriculture. One of the most well-known Farm Bill Programs, the Conservation Reserve Program (CRP), originated then. CRP was originally intended as a soil conservation and water quality program on highly erodible croplands.



MELISSA MCGAW/NCWRC

Farm Bill programs have resulted in a suite of ecological benefits across the state. Agricultural practices such as no-till farming (field, above) and programs that create early-successional habitat have led to increases in small-game animals and birds such as the Northern bobwhite quail. Farm Bill successes in the Great Plains increased the breeding success of waterfowl such as the Northern pintail, which winters in North Carolina. Other programs encourage the planting of wildlife-friendly warm-season grasses, such as Indiangrass, as forage for livestock. Thinned forest stands allow early-successional growth and help increase mast production of oaks.

Basically, farmers rented their land to USDA in exchange for not farming these environmentally sensitive areas.

The program proved successful at protecting soil and water, but it also provided unexpected benefit to wildlife, particularly in Midwestern and Western states. Folks in the arid grasslands of the northern Plains found that CRP created superb year-round upland bird habitat, as well as excellent nesting habitat for waterfowl. In those soil types and climates, areas left unfarmed quickly reverted to native grasses and forbs and provided near-ideal habitat for grassland songbirds, ring-necked pheasants, sharptail grouse and ducks. Populations of many of these birds increased from the 1990s until just a few years ago, and even North Carolina citizens far from the Plains benefited from flights of more numerous migrating waterfowl. CRP is perhaps the single most important program in United States history for providing habitat for upland birds and waterfowl.

Since its inception, the Farm Bill has been influenced by politics, science, criticism and cynicism while being shaped by successes, failures and changing resource needs. The recently adopted 2008 Farm Bill follows the trend of complex but effective legislation and offers more opportunities than ever to manage wildlife and other natural resources.

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We've received lots of positive feedback about "Ask the Wildlife Biologist." Our staff will answer a few questions in every issue. Feel free to ask about anything related to wildlife habitats and the species that use them. Send questions to:

Ask the Wildlife Biologist
The Upland Gazette
1722 MSC
Raleigh, NC 27699-1722

Include your name, city and state, and we will print that information along with our response. Thank you for supporting the *Upland Gazette*.

—Mark D. Jones,
NCWRC Supervising Wildlife Biologist

I was talking to a landowner today who asked how to deal with *Baccharis* in field borders. He had mowed and disked but neither worked. Dr. Chris Moorman with North Carolina State University said herbicides may work, but suggested I contact the *Upland Gazette* staff to see how you advise landowners to address this issue. I know the landowner should work with the USDA Farm Services Agency for any management on lands enrolled in farm programs, but I thought I'd check with the *Upland Gazette*.

Shannon Bowling, Raleigh, N.C.

Dear Shannon: Most of the field border problems I've had to address have been related to sweetgum and red maple saplings. *Baccharis* or "grounse" is a persistent pest, and there is no one method alone that will eradicate it. Typically, we recommend multiple management techniques. Glyphosate or 2,4 D Amine will help to control *Baccharis*, but must be carefully applied by spot-spraying since both herbicides can kill preferred plants in the field border. Always follow label instructions when using herbicides.

If forced to choose, disking will always be more effective than mowing. Finally, *Baccharis* is not tolerant of fire, so you should integrate prescribed burning into the management of your field borders where *Baccharis* is a pest problem. Using multiple control techniques will have the greatest impact. For example, use fire as a control measure followed by spot-spraying when resprouting occurs.

The same principles apply to any persistent pest plants causing problems with your wildlife management efforts. Most often, multiple management techniques can be combined to achieve the best results.

C. Victor French
NCWRC Southern Coastal Management Biologist,
Game Lands Program

What are the top causes of mortality for Northern bobwhite quail?

Kendall Smith, Columbia N.C.

Dear Kendall: Researchers at North Carolina State University (Marc Puckett, Fred Robinette, and Paul Curtis) determined the cause of death for 247 wild quail in North Carolina. The studies were completed in the 1990s using quail wearing radio transmitters. Wild predators were responsible for 212 of the deaths (86 percent)



An
Upland Gazette
Feature

making them the top cause of mortality. The other 35 quail were killed in various ways by man, including hunters (12) and with farm equipment (8).

Researchers could generally distinguish between avian and mammalian predation by examining the quail remains. They determined that birds of prey killed twice as many quail as did wild mammals. Cooper's hawks, also known as blue darters, were suspected as the main avian predator. The top mammalian predators were probably foxes and bobcats, but other mammals such as raccoons and opossums likely caught a few quail either on the roost or on the nest.

Quail egg predation is the second way that predators impact quail. Marc Puckett monitored 53 quail nests, and 35 were destroyed. Predators ate the eggs in 25 nests, tractors smashed six nests, and the cause was unknown for four nests. Common predators were snakes, foxes, raccoons, opossums, and skunks. Marc also monitored chick mortality for five broods for their first 28 days after hatching. All the chicks in one brood died, but with the other four broods, 85 percent of the chicks survived. The cause of death was undetermined in all cases, but the likely predators were snakes and wild mammals.

No predator feeds exclusively on quail, but since so many predators eat quail, the overall impact of predation is high. Paul Curtis, one of the NCSU researchers, estimated the annual quail mortality rate at 94 percent. This means that only six out of every 100 quail survived the year. This rate is high compared to many other studies in which annual mortality averages about 80 percent.

Quail are, and always have been, short-lived birds due primarily to predation. Generally, less than 20 percent survive their first 12 months even in best-case scenarios.

John Wooding, NCWRC Small Game Project Leader

Northern bobwhite quail have adapted to heavy predation. They produce high numbers of offspring in good habitat by nesting twice per season. Nesting and brood-rearing habitat are key to healthy quail populations, as predation is something the birds have always experienced. Additional studies by NCSU, in cooperation with the Wildlife Resources Commission, found mammalian predator control alone would not increase quail populations. Habitat improvements were necessary to allow quail populations to thrive with or without the control of mammalian predators. The control of avian predators is currently restricted by federal law. This complicated subject is a good topic for a future issue of the *Upland Gazette*.

Mark D. Jones, NCWRC Supervising Wildlife Biologist

Stick To Your Guns

A Farm Bill Planning Guide For Landowners

John R. Isenhour, NCWRC Piedmont Region Technical Assistance Biologist

Editor's Note: This article provides additional information about the Farm Bill.

The challenges of land ownership often require a high level of dedication and stubbornness. As I travel around my 35-county work area, I find that many landowners share these admirable qualities. However, while standing tough in the face of property taxes, drought, trespass, theft, and vandalism, many landowners seem to struggle with a vital component of landownership—defining a management objective and sticking to it.

If you own or manage property and don't have a clear management objective, now is the time to define what you want to do with your property. And it's even better if your objective involves early-successional habitat management. The soon-to-be-implemented Taxation of Wildlife Conservation Lands Tax Value program and new funding opportunities in the 2008 Farm Bill remove several hurdles to management of declining habitats.

When it comes to financial assistance, it is often said, "Conservation should drive funding programs, funding programs should not drive conservation." Some people find this methodology difficult to follow, so they make last-minute decisions when facing an approaching deadline simply because there may be funding available. Impulse reactions often result in a management plan that the landowner is unhappy with and implements half-heartedly, if at all.

Happy landowners and good conservation are the result of a well thought-out management plan. If you need to develop a plan, are in the process of developing a plan, or your management plan needs to be updated, consider the following steps while identifying your objectives and seeking financial assistance:

Manage for Your Objectives

1. Work with family members or co-owners to develop a list of primary objectives for your property. Do you want to manage

for wildlife diversity, recreation, timber production, hunting, soil and water quality, agricultural production and/or aesthetics? Rank these objectives based on importance to you and other decision-makers. Put these objectives in writing so all interested parties have the same base of information.

2. Expand your top four or five primary objectives. Spell out details for the most important objectives to help narrow your focus. Note questions you have during this process for future discussion.

3. Arrange for a site visit with natural resource professionals who have expertise in the fields that address your detailed objectives. Include N.C. Wildlife Resources Commission biologists, Natural Resources Conservation Service staff, U.S. Fish and Wildlife Service biologists, and other appropriate resource professionals. Discuss your objectives, limitations, and opportunities to meet multiple objectives in your plan.

4. Work with these professionals to develop a written document that you are willing to follow. The plan should be specific enough to address current objectives but flexible enough to allow for future changes. Have all decision makers review the draft management plan and make needed changes before proceeding with implementation.

5. If financial assistance is needed, research available funding programs and modify your plan's details to meet program requirements. Do not eliminate your objectives just to meet program requirements. If you feel like you are giving in just to enroll in a program, that's a good sign to keep researching.

6. Sign applications with funding agencies after careful planning and discussion, when you are certain you are meeting your objectives. Address any eligibility requirements



MELISSA MCGAW/NCWRC

A Commission biologist consults with a landowner and his farm manager to tailor a land management plan designed to meet multiple goals.

as early as possible to assure you qualify for the program that you have selected.

7. Once you are awarded a contract, make sure that you review contract requirements, implementation schedules, and reimbursement amounts prior to signing. Ask questions and voice concerns at this time. Make sure you know exactly what is expected of you and what you will receive after signing a contract.

8. Implement habitat improvements on your property according to the contract schedule. Keep in touch with the funding agency and technical advisors for assistance in plan implementation, possible plan modification, and future funding opportunities.

Planning is the basis for all good conservation, but a plan that stays unused and covered in dust serves no purpose. Define your objectives early in the planning process to ensure effective plan development and successful implementation. Stick to your guns and be patient as you work through the planning process. The result will be a habitat management plan with a well-worn and well-used cover that will spark excitement each time you head to the field and see your objectives become a reality. ♣

John R. Isenhour,

NCWRC Piedmont Region
Technical Assistance Biologist

Help Wanted: Avid Bird Hunters

Fill out Quail and Grouse Surveys to Help Track Wildlife

The N.C. Wildlife Resources Commission began surveying Avid Quail and Avid Grouse populations in 1984. Each hunting season we ask dedicated bird hunters to record their daily hunting activities including the number of hours they hunt, number of birds flushed and number bagged. They also record the number of rabbits and woodcock observed. The information is recorded on pre-printed survey cards and mailed to the Commission at the season's end. These surveys help increase our knowledge of wildlife trends. See the Avid Grouse Survey Card example below.

Once we receive the information, we tabulate and graph the results. For example, the chart at right shows the average number of quail coveys flushed per hunting trip. The information is only for wild quail as hunters do not report hunts for pen-reared birds. As noted on the graph, hunters found more coveys in the mid-1980s than today. However, hunting success has been relatively steady since 1990. This does not mean that quail have not declined in North Carolina—we know they have based on other measurements. But within good quail habitat, quail are holding their own.

The situation with grouse is mixed—with more ups and downs than quail. The highest average flush rate occurred in 1989 and 1990 when grouse hunters flushed an average of six grouse per trip. The lowest rates occurred over the past two years as hunters flushed on average two to three grouse per trip. We think the recent drop was caused by two poor nesting years. We also think the long-term downward trend is due to habitat changes caused by forest maturation. Using this data, we inform land managers that grouse are declining and offer solutions such as increasing the quantity of young forests either through logging or prescribed fire.

We greatly appreciate the hunters who provide this information. Their help expands our knowledge of wildlife trends

by providing data we could not obtain due to the time and expense required. Anytime we discuss wildlife trends, we use the data obtained in avid hunter surveys. Participating hunters receive an annual summary of the data. Funding permitting, we also provide an avid hunter ball cap as a thank-you gift.

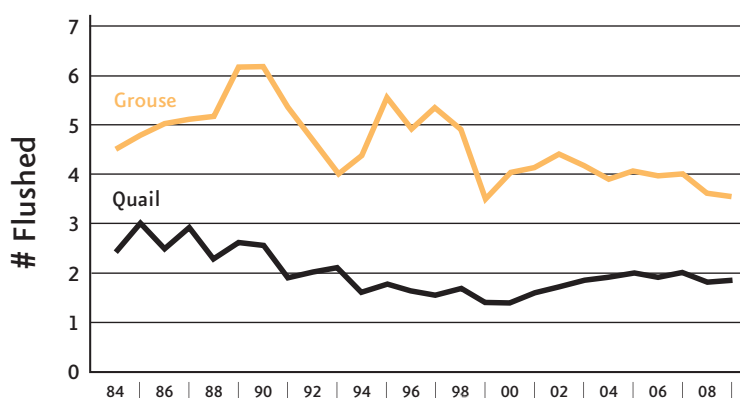
Become a Volunteer

If you participate in the surveys, thank you. If you do not, but are willing to record your hunting information for grouse or

quail, we need your help. There are currently about 50 hunters providing grouse data and 80 hunters providing quail data. More information will make the data stronger. If you are willing to volunteer, please send your name and address to: N.C. Wildlife Resources Commission, Avid Hunter Surveys, 1722 Mail Service Center, Raleigh, NC 27699-1722. We will provide you with survey cards and instructions. Thanks. We appreciate your help. 🦋

John Wooding,
NCWRC Small Game Biologist

**Avid Grouse and Quail Survey: Average Flushed/Trip
1984–2008**





Northern Bobwhite

North Carolina Wildlife Profiles



Northern Bobwhite

Colinus virginianus

Most people know the Northern bobwhite by the name bobwhite quail, or just quail for short. Partridge is the old-fashioned name. The males whistle a clear, loud mating call in late spring and summer. The calls, as frequent as two to three per minute, sound like the bird is whistling “bobwhite.”

Description

Quail are related to turkeys and chickens and, to some people, they look like a small, plump chicken. They walk upright on short legs, with a pushed out chest. Males and females can be distinguished by the feather coloration on the head. The male has a white patch under his neck and a white line that runs above his eye. On the female, these feathers are light brown. The body feathers of both sexes are a beautiful but subtle combination of brown, black, buff and white. Their coloring provides effective camouflage.

History and Status

Before the arrival of Europeans in this country, bobwhites were probably most numerous in fields and woods burned frequently by Native Americans. Europeans cleared additional forests for fields and pastures. Quail thrived on North Carolina farms through the 1950s and 1960s. However, by the mid-1980s, biologists recognized that the birds were declining as former fields reverted to forests, and urban development converted old farms to new subdivisions. Quail remain common in portions of North Carolina, but not at their former numbers.

Habitat and Habits

Quail live on the ground, both day and night. At night, they hide under weeds and bushes. By day, they walk about, pecking for seeds and fruit and insects. When danger approaches, such as a fox or snake, they freeze in place and let the predator pass, or they try to outrun it; but, if need be, they leap into flight. Wing beats are fast, furious, and loud—a quail unexpectedly taking flight from under foot is startling. An average flight lasts five seconds and covers 150 feet, after which the bird returns to ground.

Bobwhites do best in weedy fields and meadows, clear cuts and open woods dense with native grasses. They do poorly in towns, in dense forests, and in cattle pastures planted with fescue, Bermuda, or bahia grass.

Quail nest one to three times per summer, laying on average 12-14 eggs per clutch. Nests are hidden under weeds or grass clumps. The hen may incubate the eggs herself and raise the young, but this job may also be done by the male;

*In the South, “bobwhite”
is a comforting sound
and reminiscent
of home and tradition.*



Northern bobwhite male

Range and Distribution

Bobwhites occur in eastern North America, from southern Canada to Mexico. In North Carolina, they are most plentiful in the eastern portion of the state and spotty but widespread in the Piedmont, found commonly near clear cuts and farm fields. But anywhere suitable habitat exists, quail are abundant—even in the mountains.

Range Map



Northern bobwhites are found statewide.

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Northern Bobwhite

Wildlife Profiles—North Carolina Wildlife Resources Commission

in which case, the female is free to find another male for a new nest. Incubation lasts 23 days. Hatchlings weigh $\frac{1}{4}$ ounce, yet they are able to walk and follow their parent within an hour of hatching. They look like walking, downy fuzz balls. They first fly when two weeks old and reach adult size in three to four months.

During the breeding season, quail live alone or with their chicks. But once breeding is over, generally by September, quail unite into small flocks with three to 20



This hen protects her hatchlings under her wings.

members. We call the flocks “coveys.” Membership in the covey is not fixed and some individuals move from covey to covey. A covey roosts at night with members in a circle, shoulder to shoulder, facing outwards toward danger. Coveys communicate with other coveys using a special whistle call. The covey call is given at about 15 minutes before daylight. Great habitat supports about one bird/acre, and from a well-positioned

listening spot, a person can sometimes distinguish 10 coveys speaking to each other in the predawn hour.

Quail live short lives—fewer than 20 percent live to be a year old. A three-year-old quail is well past middle age, and a five-year-old quail is truly ancient. Predation is the leading cause of death. Cooper’s hawks relish the big-breasted adults. Even eggs are sought by predators. Large rat snakes can swallow every egg in a nest, and the parent quail too, if caught by the snake. Quail are highly productive breeders, which is nature’s way of handling the high predation.

People Interactions

Bobwhites are classified as a game bird in North Carolina. Cooked quail have excellent flavor and are delicacies at the dinner table. The hunting season begins in October and ends in February. A typical hunt lasts about four hours, during which two coveys are found, and two quail are bagged. Quail are hunted with a bird dog. The dog travels ahead of the hunter, and upon finding a covey, it freezes in place, telling the hunter, “Here they are!” When the hunter approaches, the birds explode into flight, and the hunter shoots with a shotgun.

Landowners can manage their property to increase quail populations, if not for hunting, then just for the pleasure of seeing the birds, and especially, hearing the male whistle “bobwhite.” The call means that summer is here and all that comes with it—tomato sandwiches, blackberry cobbler, watermelon. The call promises quail hunters memorable days afield in the company of hard-working bird dogs. To many Southerners, quail are the South’s greatest bird, and hearing “bobwhite” is a comforting sound reminiscent of home and tradition.

Written by John Wooding, Small Game Biologist, Certified Wildlife Biologist, NCWRC

Wild Facts

Classification

Class: Bird

Order: Galliformes

Average Size

Length: 10 in.

Wingspan: 9-11 in.

Weight: 5-8 oz.

Food

Small seeds, fruit, tender leaves and insects.

Breeding

1-3 clutches per year with 12-14 eggs per clutch. Predators destroy about $\frac{1}{2}$ of the nests.

Behavior

Do not migrate. Live in small flocks called coveys.

Life Expectancy

Maximum of 5 years; 80% die before they are 12-months old; most deaths due to predation.



Attempting to read the 663-page text of the actual Farm Bill legislation is an invitation to confusion. The good news is that there is plenty of assistance to help landowners understand Farm Bill opportunities available in North Carolina. The following overview details some programs that fit wildlife habitat management objectives across North Carolina.

The Environmental Quality Incentives Program (EQIP)

Because EQIP is a program that addresses confined animal waste and crop production issues, the Farm Bill requires that 60 percent of its funds be used to improve animal waste problems in the state. However, the other 40 percent can be used to address resource concerns such as wildlife habitat development. EQIP strives to improve natural resources on working lands by incorporating conservation practices, many that benefit wildlife.

Native Warm-Season Grass Conversion: Traditional forage grasses such as tall fescue and Bermuda grass offer little or no value for wildlife. Converting those grasses to drought-resistant native warm-season grasses such as switchgrass, Indiangrass or big bluestem provides high-quality livestock forage that can be managed to provide cover for early-successional wildlife species.

Establishing Buffers: Field and pasture buffers planted with a mixture of native warm-season grasses, forbs and shrubs provide habitat for various early-successional species. Combining fencing and buffers can improve aquatic habitats by keeping livestock from streams or ponds and reducing nonpoint source pollution.

Increasing the Wildlife Habitat Suitability Index Score: This practice offers landowners a payment for their efforts to improve habitat for declining wildlife species. The index grades habitat based on current and planned conditions. Points are given based



MELISSA MCGAW/NCWRC



MELISSA MCGAW/NCWRC

Top photo: This forest stand was thinned to allow for early-successional habitat growth and increased mast production by hardwoods. Below: This cornfield is bordered by a habitat buffer, which is quality habitat for upland birds.

Easement Programs: Long-term Land Protection

Three easement programs are available in North Carolina under the 2008 Farm Bill to protect valuable land from development, protect critical or endangered habitats, and to preserve the state's natural beauty. All easement programs are voluntary and provide compensation to the landowner in exchange for the relinquishment of development rights.

The Farm and Ranch Lands Protection Program (FRPP) provides matching funds to help purchase development rights and keep productive farm and rangeland in agricultural uses. All FRPP easements are permanent.

The Grassland Reserve Program (GRP) offers landowners the opportunity to protect, restore and enhance grassland, rangeland, pastureland and certain other lands on their property. Participants limit future development and cropping uses of the land while retaining the right to conduct common grazing practices and operations related to the production of forage and seeding. Management is subject to certain restrictions during nesting seasons of birds that are in significant decline or are protected under federal or state law. All GRP easements are permanent.

The Wetlands Reserve Program (WRP) allows landowners to protect, restore and enhance wetlands on their property. NRCS provides technical advice and financial support. In North Carolina, WRP currently offers 15-year restoration easements and permanent easements.

on frequency of prescribed burning, forest stand density, forest openings and the overall quality of early-successional habitat.

The 2008 Farm Bill opened the door to new opportunities for habitat improvement by including Forest Health and Productivity as resource concerns that EQIP must address. Wildlife Resources Commission biologists work with USDA Natural Resources Conservation Service (NRCS) staff to ensure that wildlife is conserved using forest management practices whenever possible. Applicants who address wildlife habitat improvement in their forest management plan have a better chance of being funded than applicants who do not.

Prescribed Burning: The most cost-efficient wildlife habitat management practice funded through EQIP, prescribed burning promotes early-successional habitat and plant species diversity, especially in heavily thinned forest stands.

Reforestation Clear Cuts with Longleaf or Shortleaf Pine: Stands of these trees have declined in North Carolina over the past century, and associated ecosystems containing desirable understory plants and associated wildlife have disappeared as well. Stands of longleaf and shortleaf pines provide habitat for early-successional wildlife for a longer period of time than loblolly pines because the canopies of longleaf and shortleaf pine are more open and allow more sunlight to reach the forest floor.

Thinning Forest Stands for Forest Productivity and Wildlife Habitat: This practice promotes the thinning of forest stands to a tree density slightly below levels used in stands managed only for forest production. A higher rate of thinning allows more sunlight into a stand and provides more long-term habitat for wildlife, including early-successional species, by promoting a more diverse plant understory.

The Wildlife Habitat Incentives Program (WHIP): WHIP is similar to EQIP in format and practice availability, but directly addresses wildlife habitat without some of the constraints of EQIP. Practices funded with WHIP are directed less toward commodity production and focused more toward simply improving wildlife habitat. Landowners can use WHIP funds to improve habitat in forests, fields and pastures, as well as aquatic ecosystems. These funds are designed to enhance habitat and ecosystems required by declining wildlife, such as early-successional species. A portion of WHIP funds are targeted geographically into Habitat Priority Project Areas to help populations over a large landscape.

Early-Successional Habitat Development: Plantings of native grasses and forbs can be designed to target songbirds, small game and even beneficial insects such as bees and wasps. If habitat already exists, management practices can be incorporated to enhance its quantity. Selective herbicide application, prescribed burning and rotational disking can be used to maximize habitat quality and prolong the benefit of native grass and herbaceous habitat. Field edges can be cut back or treated with herbicide to keep a tangle of brush, briars and shrubs, which serves as vital winter cover.

For More Information

All Farm Bill programs are administered by either the Farm Service Agency (FSA) or the Natural Resources Conservation Service (NRCS). Both of these agencies are located within service centers managed by the U.S. Department of Agriculture. USDA Service Centers are designed to be single locations where customers can access FSA, NRCS, Rural Development and other agencies.

Most North Carolinians live near a USDA Service Center. Find the address and contact information for your area center at <http://offices.sc.egov.usda.gov/locator/app>.

Find NRCS program information specific to North Carolina at <http://www.nc.nrcs.usda.gov/programs>.

It is important for landowners to seek professional assistance in making land management plans and applying for financial help. Professional wildlife biologists within the NCWRC's Private Lands Program are available to help landowners develop wildlife-friendly management. Landowners can contact NCWRC's Division of Wildlife Management at (919) 707-0050 to get in touch with a private lands wildlife biologist.

Forest Stand Improvement: WHIP practices in forestland are slightly more aggressive than if forest production was the primary objective. Forest openings can be installed and managed for wildlife species that require pockets of early-successional habitat. Pre-commercial thinning can be used to allow sunlight to reach the forest floor and revitalize groundcover of grasses and briars that have been shaded out. Crop tree release can be used to remove competition from around mast species such as oak, persimmon and hickory. Releasing these trees not only helps produce more fruit but also promotes the growth of early-successional habitat within the treated area. Another beneficial treatment available is the control of invasive exotic plant species, which allows native plants to better regenerate.

Riparian and Aquatic Habitat Enhancement: Riparian buffers can be installed to filter runoff and maintain water temperatures, as well as provide travel corridors for terrestrial species. Stream banks and channels can be stabilized to reduce erosion and siltation and improve water quality. In-stream structures can be installed to improve aquatic habitat diversity and function for a wide variety of aquatic species. Fish passages can be improved to allow aquatic species to migrate throughout a watershed.

Conservation Reserve Program (CRP)

CRP has treated millions of acres across the United States since beginning in 1985. CRP contracts are unique because they provide reimbursement for a percentage of the establishment costs of practices and pay an annual rental payment. Across North

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MELISSA MCGAW/NCWRC

NCWRC technical assistance biologist, John Isenhour, consults with Anson County landowner, John Bishop and his land manager, Lee Efrid. The field of native grasses and forbs was planted using WHIP funds.

A Unique Relationship

In 2002, NRCS and NCWRC staff began working together to maximize Farm Bill funds for significant wildlife habitat improvement. Historically, the NCWRC lacked staff dedicated solely to providing Farm Bill guidance. To solve the problem, the NCWRC emulated state-federal partnerships developed in Kentucky and Tennessee that used Farm Bill technical assistance funds to pay for a portion of staff time dedicated to Farm Bill work. The first of three new NCWRC technical assistance biologists was hired in 2004. Now working in each of North Carolina's geographic regions, these biologists assist NRCS staff and landowners to get wildlife habitat, especially early-successional habitat, established.

In the last five years, technical assistance biologists have shaped and influenced Farm Bill programs more than ever anticipated. Thousands of acres of habitat have been planned and installed under their guidance. Significant priority areas have been identified, and landowner outreach has targeted declining habitats in each of the state's regions. As one resource manager said, "They find ways to make it work, not reasons why it won't." This personal support for landowners and NRCS staff has proven a valuable resource to maximize benefits of state and federal taxpayer dollars while directing available funds to declining species and habitats.

Carolina, 128,066 acres are enrolled. Some states in the northern Plains have had as many as 4 million acres enrolled at times. To maximize the environmental benefits of CRP, new opportunities were created for CRP enrollment in two specialized programs: Continuous Conservation Reserve Program (CCRP) and Conservation Reserve Enhancement Program (CREP).

One of the biggest changes in CRP has been to focus efforts and funds toward specific critical or declining habitats. This change resulted in the implementation of CCRP in 1996 to address several significant habitat types, including shallow-water wildlife areas, riparian buffers, early-successional habitat and longleaf pine ecosystems. Depending on the planned practice, landowners can receive rental payments, installation cost share, management funds and a signing bonus. The Conservation Practice (CP) the landowner uses depends on their objectives and the history of the land they are enrolling.

Shallow-Water Areas for Wildlife CP 9: Develops or restores shallow-water areas (6-18 inches deep) to improve wildlife habitat. Fallow vegetation can be managed with disking and burning in these impoundments. This practice is available only on cropland.

Filter Strips CP 21: Installs and maintains filter strips from 20–120 feet wide to remove pollutants from crop field runoff to improve aquatic ecosystem quality. Native grasses and forbs in filter strips can improve habitats for early-successional species.

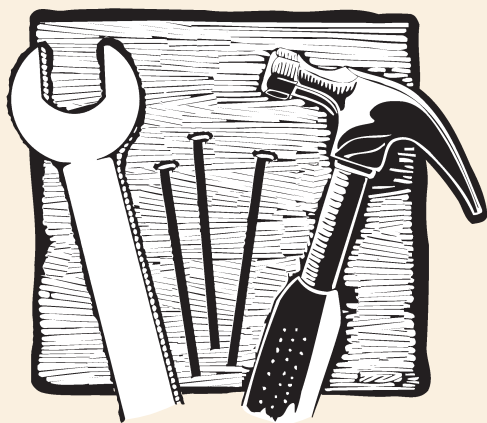
Riparian Buffer CP 22: Establishes forested riparian buffers from 35–180 feet wide to exclude livestock, improving water quality and wildlife habitat. Both cropland and marginal pastureland can be enrolled in this conservation practice.

Marginal Pastureland Wildlife Buffer CP 29: Restores native shrubs and herbaceous vegetation in pastureland riparian buffers, and excludes livestock to stabilize stream banks, reduce flood damage, and enhance wildlife habitat. Buffers must be 20–120 feet wide and planted with a mixture of native grasses and forbs.

Habitat Buffers for Upland Birds CP 33: Establishes buffers to enhance early-successional habitat around the perimeter of eligible cropland. These buffers are 30–120 feet wide and can be fallow or planted with native vegetation. Periodic management with fire, herbicides or disking is required to maintain early-successional benefit.

Longleaf Pine Establishment CP 36: Establishes and manages longleaf pine forest habitat. Land enrolled must be cropland with an official cropping history and fall within priority areas. This program is designed to increase acreage of the threatened longleaf ecosystem within its historic range while providing habitat for many important and declining wildlife species.

SAFE Program CP 38: This practice can be used to convert and manage entire fields in early-successional habitat. The program was developed to maximize grassland bird habitat on a



Land Managers' **TOOLBOX**

There are times when landowners find a “mess” of brush and trees on their property and wonder what can possibly be done with this “pine jungle.” This may be the result of clear-cutting that has naturally regenerated or a stand planted and neglected over time. No matter how it happened, what you have is a stand with little wildlife or commercial value.

Fortunately, there is good news. Timber stands composed of trees less than five inches in diameter can be harvested for fuel chips. This is an excellent way to thin or clear-cut a stand so that it can be replanted. If enough trees are retained in

thinning, this process can act as a release thinning. In these situations, I typically recommend that some component of large trees be retained. This could include removing everything but longleaf pines or leaving some large pines and some scattered mast-producing hardwoods.

Leaving pines can be desirable for several reasons: they provide needles to help carry fire, leave refuge or nesting cover for wildlife, and leave a food source. Residual hardwoods can provide many of the same benefits as pines for wildlife, but they should be kept to a minimum because they shade groundcover and their leaves do not carry fire as well. For help with planting a new stand, landowners should consult with a N.C. Division of Forest Resources forester. This should be done before a chipping operation begins. Landowners can work to have the land cleared for a small profit instead of paying a contractor to achieve the same result.

When a stand cannot be chipped, landowners may require a contractor's services. For example, landowners can hire a hand crew to manually remove competing trees common in longleaf stands. Many of these trees result in longleaf stands that are not burned early enough to reduce

Chip, Chop and Shape Your Forested Stand

competition from volunteer pines. This occurs because herbicides can control hardwoods, but the only practical way to control loblollies is to burn on a frequent rotation throughout the life of a longleaf stand. In a loblolly stand, it may be more practical to drum chop lanes as a means of thinning and introduce fire when the trees reach an adequate size.

There is usually a way to clean up a brush and tree “mess.” However, sometimes it's best to clear the ground and start over. Starting over can mean low profits or even costs, but without any action the stand will continue to have little wildlife or commercial value. Again, sound pine timber management can fall in line with good habitat management because these methods promote desirable groundcover for wildlife and allow a stand to produce better timber.

Contact your local N.C. Wildlife Resources Commission biologist for additional information about managing forestlands for a combination of timber and wildlife benefits. ♣

*Michael Champion,
NCWRC Landowner Incentive
Program Biologist*

landscape scale in Bertie, Edgecombe, Halifax, Hertford, Martin, Nash, Northampton and Wilson counties.

Water quality and reduction of nonpoint source pollution within the nation's watersheds have become special focuses of CRP. This led to the creation of CREP, which combines USDA Farm Bill funds and state funds to address these resource concerns. CREP addresses water quality resource concerns by installing riparian buffers on cropland and pastureland, as well as offering 10-year, 30-year and permanent easement opportunities on riparian sites.

Areas from the Yadkin-Pee Dee River basin east may apply for CREP funding. Several of the same practices available within CCRP can be utilized within CREP, including CP 21 and CP 22. Program specifics can be complex depending on

length of contract, practices selected and acreage impacted. Landowners may receive increased rental payments, installation cost share and management funds in CREP contracts.

The Farm Bill has a long history of providing environmental benefits across the nation. If you are a landowner with a desire to improve your wildlife habitat by receiving cost share from the federal government and expert help from the N.C. Wildlife Resources Commission, the Farm Bill may have something for you. ♣

Mark D. Jones is a Supervising Wildlife Biologist and John R. Isenhour is a Technical Assistance Biologist with the NCWRC's Private Lands Program. Technical Assistance Biologists Don Barker and Patrick Farrell also contributed to this story.



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Thanks for reading the *Upland Gazette*!

Mark D. Jones,
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